

The

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The California Academy of Sciences

CALIFORNIA  
ACADEMY OF SCIENCES  
DEC 27 1992

# ACADEMY

DEDICATED TO SCIENTIFIC RESEARCH AND EDUCATION, INSPIRING RESPECT FOR THE NATURAL WORLD



## MEMBERS MEETINGS

### BIRDS AND MAMMALS OF THE ANTARCTIC

with Douglas Cheeseman, Jr.

Wednesday, January 13, 2 pm and 7:30 pm

*J*oin biologist, traveller and photographer, Douglas Cheeseman Jr., for a slide presentation on his 54-day trip to the Antarctic aboard the "Frontier Spirit." Professor Cheeseman was the field naturalist and lecturer for this adventure. Few animals other than mites, microscopic rotifers and tiny wingless insects can survive the minus 80 degree temperatures, but the coasts and offshore waters support a rich variety of life. Penguins, skuas, petrels and fulmars are joined by whales and seals in this frigid area. Professor Cheeseman's route toured throughout the subantarctic islands, including South Georgia and Campbell. He also travelled to the Antarctic Peninsula and the continental landmass facing Tierra del Fuego.

Professor Cheeseman has taught zoology and ecology at De Anza College for the past 25 years. He's also very active in the Santa Clara Audubon Society, giving lectures and leading many local and overseas trips. Douglas Cheeseman is an enthusiastic speaker who will leave you excited to learn even more about the Antarctic.

The Academy Store will be open before and after each program.

Next month's Members Meetings on February 10th at 2 and 7:30 pm features renowned scientist Dr. Ronald J. Schusterman lecturing on "Vocal Recognition in Sea Lions: Possible Social Function."



## MEMBERS ONLY

### MEMBERS' MORNINGS

On weekends and holidays in January (except the 23rd), the Academy will open its doors an hour early—at 9 am—for members to view the spectacular *River of Gold* exhibit and other museum displays. Show your membership card at either entrance. Hope you'll join us.

### CONGRATULATIONS to

Academy members Joe and Barbara Ramos who won the Caribbean trip drawing held at the Membership booth throughout the summer and early fall. The trip was generously donated to the Academy by CLUB MED.

## FROM THE EXECUTIVE DIRECTOR

Dear Academy Members,

I take great pleasure in wishing you all a Happy 1993.

This new year the Academy features two superb exhibits, *CELEBRATE! CARIBBEAN FESTIVAL ARTS*, now extended through March 7, and *RIVER OF GOLD* running through April 4. I hope all of you enjoy visiting these wonderful displays.

Your membership helps the Academy bring these exciting exhibits to the Bay Area. And, as a member, you play a vital role in assuring the continued progress of this landmark institution—recognized as one of the finest in the world. Over 300,000 children visit us each year with their families and local schools, providing an important boost to their understanding of the land, the water, the sky and the issues which surround the preservation of this planet.

The Academy's research programs continue to describe the Earth's biodiversity. Our collections now number over 14 million plants, animals, fossils and artifacts. Scientists from around the world come to study these collections, and thousands of specimens are loaned to research institutions and scholars worldwide.

Your continued participation through active Academy membership has enabled us to come this far—140 years this year to be exact! Many thanks to each of you.

With warm regards,

*Roy Eisenhardt*

Roy Eisenhardt

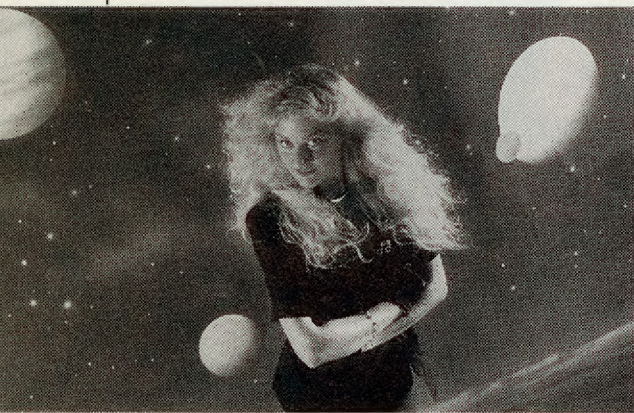




## MORRISON PLANETARIUM

PLANETARIUM  
CONCERT

February 8 and 9, 7:30 pm



A special concert, **"Music from the Galaxies,"** will be presented in the Planetarium on February 8 and 9 at 7:30 pm. Dr. Fiorella Terenzi, an astrophysicist, combines science and art by collecting radio waves from a distant galaxy, converting them into sound and transforming them into music. Her music, performed using a synthesizer, sampler and computer, will be accompanied by the special laser effects of Laser Images.

Dr. Terenzi will describe optical and radio astronomy, explain how she translates astronomical observations into sound for both scientific and musical purposes, and then perform music from her first release, "Music from the Galaxies," available on Island Records.

Tickets are \$10 each and may be purchased by using the coupon on the back page.

EXPLORING  
THE UNIVERSE

Recent progress in understanding how stars are formed provides scientists with an unparalleled opportunity to try to determine the origin of the solar system. On **January 19 at 7:30 pm**, Morrison Planetarium presents, **"Genesis of the Solar System,"** with Professor Douglas Lin of UC Santa Cruz.

Other talks in the series are: **February 16—"Where Comets Come From,"** Dr. Jane Luu.

**March 23—"Russians in Space,"** Dr. Georgi Grechko, Cosmonaut, Hero of Russia, Laboratory for Atmospheric Research, Russian Academy of Sciences. (This lecture will be preceded by a reception.)

**April 13—"Voyager Exploration of the Outer Solar System,"** Dr. Jeffrey Cuzzi.

**May 11—"Quasars: Powerhouses of the Universe,"** Dr. Alex Filippenko.

All programs begin at 7:30 pm in the Planetarium. Most tickets are \$2 each and can be ordered with the coupon on the back page. Call 750-7129 for more information.

## SKY SHOWS

Closed for show changes from January 4-7, the Planetarium will reopen on January 8 with "1993 Almanac," a show highlighting the celestial events of the coming year, including comets, meteor showers and solar and lunar eclipses. Shows are at 2 pm on weekdays, 2 & 4 pm on weekends.

"Planetarium on Parade" will continue with shows on weekends at 1 and 3 pm. For more show information call 750-7141.

## L E C T U R E S

For the following lectures please use the coupon on the back page to order your tickets. Call **750-7128** for recorded lecture information.

The California Academy of Sciences and Friends of Ethnic Arts present:

**"HEADHUNTERS OF ANCIENT PERU"**

WITH DR. PATRICK CARMICHAEL

TUESDAY, JANUARY 12, 7:30 PM

The Nasca of south coastal Peru (circa A.D. 1-700) were the most fearsome headhunters of the ancient world. Traditionally, Nasca headhunting has been interpreted as evidence of warfare involving territorial conquest. A reevaluation of the archaeological evidence finds little support for this position. Alternatively it is shown that when examined within the native Andean context, a more profound understanding of headhunting and its importance in Nasca society is achieved.

Dr. Patrick Carmichael, of the Department of Archaeology, University of Calgary, has done field work in Peru since 1979. He has two cable television films for which he was writer, producer and host: *Archaeology By Experiment*, and *Fragments of Time*.

TICKETS FOR ACADEMY & FRIENDS OF ETHNIC ARTS MEMBERS \$5 / NON-MEMBERS \$7

The California Academy of Sciences presents:

The Claire Matzger Lilienthal Distinguished Lecture Series

**DR. WADE DAVIS, "THE HEALING FOREST: THE ETHNOBOTANICAL SEARCH FOR NEW MEDICINES"**

THURSDAY, FEBRUARY 11: RECEPTION- 6 PM, LECTURE- 7:30 PM

With tropical rainforests and their indigenous peoples being destroyed at a horrendous rate, ethnobotanists are now engaged in a final race to discover the medical secrets of the plants before they are gone forever. Dr. Wade Davis has been concentrating his efforts in this important area for many years.

Dr. Davis received his doctorate in ethnobotany from Harvard, and through the Harvard Botanical Museum has worked with fifteen tribal groups in eight Latin American countries. His work in Haiti resulted in the books *The Passage of Darkness* and *The Serpent and the Rainbow*—an international best-seller and Universal motion picture. Currently, he is host and co-writer of *Earthguide*, a 13-part television series on the environment.

Join us for a reception and the lecture with this fascinating scientist. The reception is at 6 pm and the lecture at 7:30 pm.

RECEPTION & LECTURE TICKETS—MEMBERS \$30 / NON-MEMBERS \$35

LECTURE ONLY—MEMBERS \$5 / NON-MEMBERS \$7

**"GOING FOR THE GOLD: THE STORY OF THE 1940 PANAMA EXPEDITION"**

TUESDAY, FEBRUARY 16, 7:30 PM

Pamela Hearne, original co-curator of the exhibit *River of Gold: Precolumbian Treasures from Sitio Conte*, will share the exciting story of the excavation of one of the richest burials in the Americas. The location of this discovery was an ancient cemetery on the Rio Grande de Cocle River in central Panama. In 1940, a University Museum archaeological team led by J. Alden Mason, discovered a multiple burial (23 skeletons) filled with masses of pottery, carved bone and whale-tooth ivory, and great quantities of gold ornaments, most of which were associated with one skeleton. The proximity of such a wealth of objects to one individual led the discoverers to believe that the burial was that of a powerful chief in an ancient Panamanian society. Slides will highlight the beauty of the artifacts, whose motifs also reveal some interesting facts about the ancient people who buried their dead at Sitio Conte from A.D. 450-900. This is a wonderful opportunity to learn more about this fascinating exhibit currently at the Academy.

MEMBERS \$6 / NON-MEMBERS \$8



Travel to the far corners of the world with Academy Travel. For

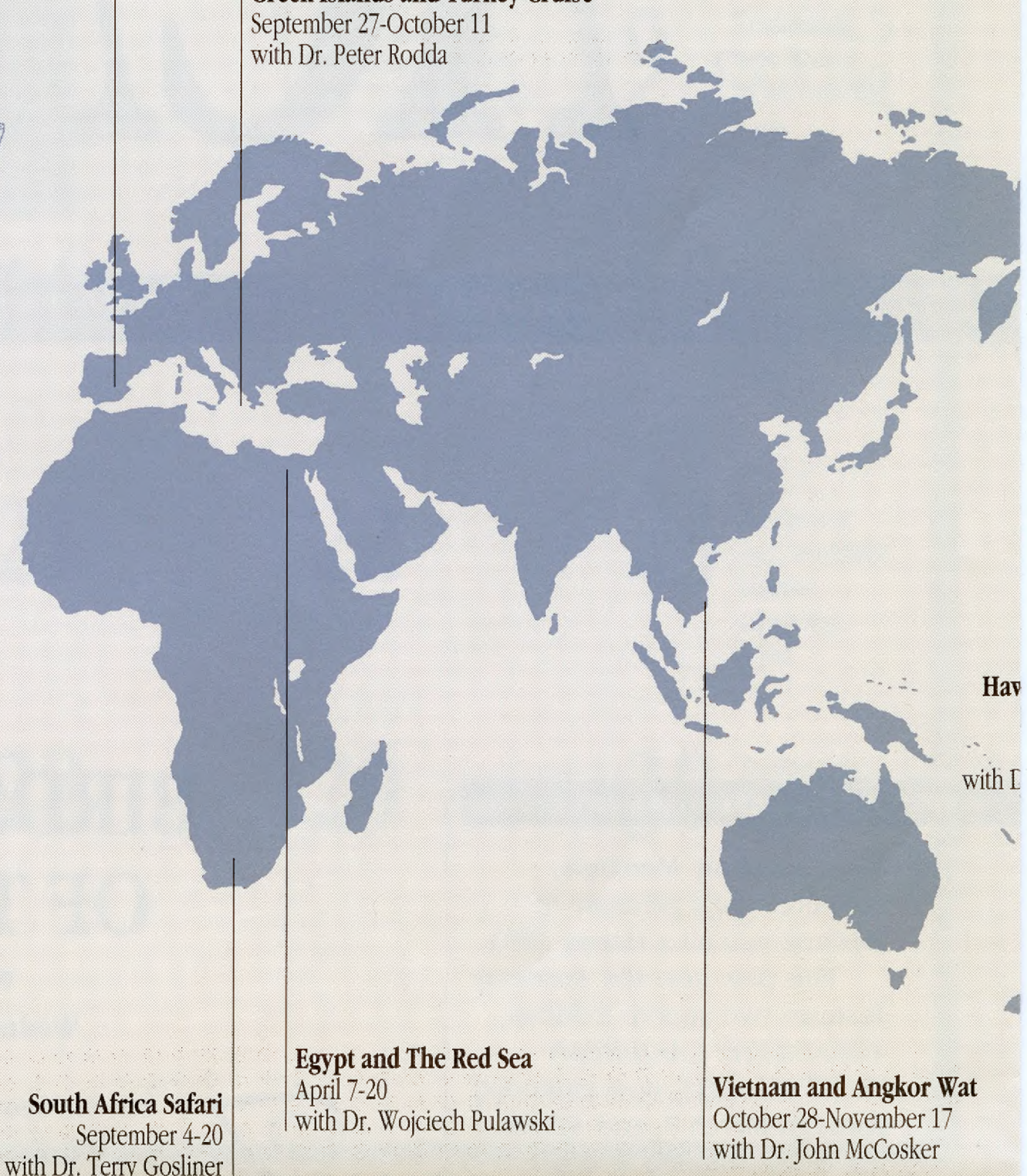
Exploring the  
August 14-8  
with Dr. J

**A Taste of Spain**

September 16-October 5  
with Narsai David

**Greek Islands and Turkey Cruise**

September 27-October 11  
with Dr. Peter Rodda



**South Africa Safari**  
September 4-20  
with Dr. Terry Gosliner

**Egypt and The Red Sea**

April 7-20  
with Dr. Wojciech Pulawski

**Vietnam and Angkor Wat**

October 28-November 17  
with Dr. John McCosker

**Antarctica Exp**  
January 3-17 with

## TRADITION

Join cultures from around the world on Saturday, January 2, at the Morrison Planetarium Auditorium. Call 750-7164 for more information.

**January 2** - No Program.

**January 9** - *The Variedad Tropical Spanish Culture* from Puerto Rico that reflect the island's multicultural Spanish influences. Dances include the rumba and the bolero.

**January 16** - In their demonstration of Ukrainian folk dance, the dancers will light the variety of regional patterns, including those from the Carpathian Mountains area, and the dancers of the audience wanting to identify their own dances to bring them to the presentation.

**January 23** - *Born in Kham, Tibet, Jamyang* will demonstrate the karma gardri or "dotted" genre. The composition is used for meditation, healing ceremonies and prayer.

**January 30** - Anne Lewis Hansen demonstrates the Pueblo in New Mexico. Daughter of renowned Pueblo artist, she carries on the family tradition of finely-crafted pottery construction and painted Acoma motifs.

THE PAUL L. AND PHYLLIS WATTIS FOUNDATION  
**ISSUES IN HUMAN EVOLUTION**

The first Paul L. and Phyllis Wattis Foundation event will be held on February 6 at the Morrison Planetarium. This scholarly event brings an invited, distinguished speaker in human evolution. Please call 750-7163 for more information.

YOUNG AUDIENCES presents **The Goldrush Sisters** on Sunday, January 17 at 1 pm. With fiddle, accordion and song, the Goldrush Sisters bring the spirit of the California Gold Rush. Audience participation is encouraged. This program is free after general admission.



## TRAVEL PROGRAM

For individual itineraries or more information call 750-7348.

**Arctic Cruise**  
September 5  
with Dr. Kelley

**Alaska's Coast Wilderness Cruise**  
July 2-11 with Dr. Terry Gosliner



**Juneau Bound**  
July 11-18  
with Joe Brennan

**Pacific Northwest Cruise**  
May 25-June 4  
with Dr. Doug Bell

**Big Bend Texas**  
May 19-June 1  
with Dr. Bill Light

**San Juan Islands Camping**  
July 17-23 with Bob Van Syoc

**St. Lawrence River and  
1,000 Islands Cruise**  
August 7-14  
with Dr. Rich Mooi

**Baja California Cruise**  
February 1-12  
with Dr. Jim Kelley

**Hawaii: Big Island/  
Kauai Camping**  
August 14-22  
with Dr. Terry Gosliner

**Copper Canyon Mexico**  
October 28-November 5  
with Dr. Linda Cordell

**Belize**  
April 10-24  
with Dr. Tom Daniel

**Costa Rica/Panama Cruise**  
December 19-January 1  
with Dr. Frank Almeda

**Trinidad and Tobago**  
(wait-list)  
February 16-27  
with Dr. Frank Almeda

**Arctic Expedition Cruise**  
with Dr. Gary Williams

**Sailing the Caribbean  
Aboard the Sea Cloud**  
March 18-27

## ARTS

Shows at 1 pm in Wattis Hall or Morrison Hall.

Caribbean Ensemble performs lively dances from the cultural heritage of Indian, Dutch, African and Latin America, merengue, mambo and salsa.

Ukrainian embroidery, Gail and June Adams highlight the yavorivka style from northern Kiev, nyzynka embroidery and merezhka designs from Poltava. Memorable pieces of Ukrainian needlework are invited.

Theresa Lange creates sacred thanka paintings in the style of Tibetan Buddhist iconography and are used for protection.

Learn the techniques of coiled pottery from Acoma and Southwest potter Lucy Lewis, Mrs. Hansen's ceramics distinguished by their thin-walled construction.

## FOUNDATION ENDOWMENT SYMPOSIUM: HUMAN EVOLUTION

Foundation Endowment Symposium: **Issues in Homind** and the California Academy of Sciences. This full day symposium brings a group of scientists together to focus on issues in human evolution. For more information.

City Arts & Lectures, presents

## CALIFORNIA ACADEMY OF SCIENCES' CONVERSATIONS AT THE HERBST THEATRE

The third annual "Conversations at the Herbst Theatre" got off to a successful start with a wonderful evening program with **Wendell Berry** in December. This series of on-stage conversations with noted authors, scientists and artists provides a powerful forum for the public to learn more about these talented individuals and their concern about worldwide environmental issues. Held in the beautiful Herbst Theatre in the Civic Center, these programs help the Academy reach a large audience interested in the natural world.

The series continues on **Monday, January 11** with film-director **Errol Morris**. Mr. Morris has created a unique genre of documentary films which explores such diverse topics as science, behavior and mortality. His most recent film, *A Brief History of Time*, is based upon the life of physicist Stephen Hawking. Timothy Ferris, author and Professor at UC Berkeley, will host this conversation.



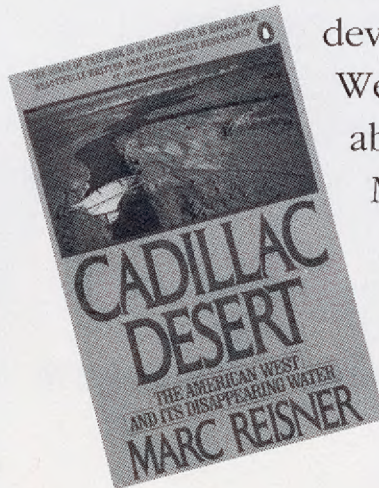
On **Tuesday, February 2**, the Academy welcomes **Douglas Adams**. Best known for his popular science-fiction series, *The Hitchhiker's Guide to the Galaxy*, Mr. Adams published his first non-fiction book, *Last Chance to See* in 1991. This book examines the fate of endangered animals. Roy Eisenhardt will host this program.

**Fritjof Capra**, author of *The Tao of Physics*, will be the guest on **Tuesday, March 30**. A philosopher and a physicist, Fritjof Capra feels that we can solve our environmental and social problems by shifting our perspective to perceive the world as one large integrated system. This concept was explored in the provocative film *Mindwalk*, released in 1991 and starring Liv Ullman, Sam Waterston and John Heard. Jerry Kay will be the host.

The series continues on **Thursday, April 8**, with **Amory Lovins**. Author of *Soft Energy Paths* and *Energy Unbound*, Mr. Lovins has been called the "energy guru" of our time. Corporations that criticized his revolutionary energy ideas back in the 70's, are now lining up for his advice. In 1982, he co-founded Rocky Mountain Institute, an independent non-profit foundation which fosters resource efficiency. This program will be hosted by Key Davidson, Science Writer for the San Francisco Examiner.

**Ursula Le Guin** will be the featured guest on **Wednesday, April 28**. Born and raised in Berkeley, her father was Alfred Kroeber, the Academy's first Curator of Anthropology. Ursula Le Guin is the author of over sixteen novels including, *The Left Hand of Darkness*, *The Dispossessed* and *Searoad*. Her work draws strength from a writer's sense of seemingly effortless play in language and a field scientist's commitment to discerning the luminescent detail that casts light on an entire culture. Sedge Thomson will be the host.

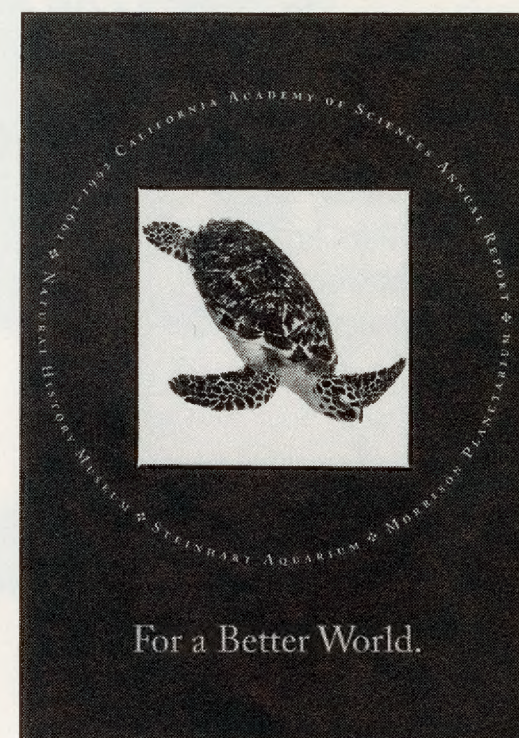
The final program on **Tuesday, May 4** features **Marc Reisner**. After seven years of research and writing, Marc Reisner published *Cadillac Desert*, a masterful account of the development and misapplication of water resources in the West. His second book, *Game Wars*, is a true adventure story about a Louisiana-based undercover wildlife agent. Dr. John McCosker will host this final program.



Tickets are \$72 for a series subscription and these orders receive priority attention. Single tickets are \$14 per event. Call 392-4400 to order tickets.

## ACADEMY ANNUAL REPORT

The Academy's 1991-1992 Annual Report is now available. If you are interested in getting a copy, please stop by the Membership Booth in Cowell Hall. Just show your membership card to receive a copy.



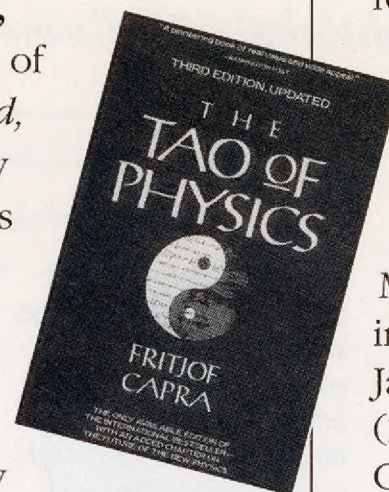
## ADULT EDUCATION

### PLATE TECTONICS, VOLCANOES AND EARTHQUAKES

The geology of Northern California is dynamic because it is the boundary of two of the Earth's giant crustal plates. In a series of slide lectures, we will explore the fascinating world of violent geological phenomena. Join Academy Senior Geology Collections Manager, Dr. Jean deMouthe for this informative course. January 7-28 (4 Thurs), 7-9 pm. Cost: \$55 members/\$65 non-members

### A SALUTE TO ECHINODERMS

Imagine creatures that have no brain and no liver, but instead come equipped with a complex hydraulic system of tube feet. Add to this a skeleton of almost pure crystalline calcite arranged in a wheel-like body, and you have an echinoderm. Join Academy Assistant Curator Dr. Rich Mooi to explore these fascinating animals. January 12 and 19 (2 Tuesdays), 7-9 pm. Cost: \$25 members/\$30 non-members



## EARTH NEWS

Earth News is a new program funded by Chevron U.S.A which expands the scope of Science in Action programs on the main floor of the Academy. Utilizing Bay Area scientists as well as Academy scientists, these programs educate and inform the public about how current environmental issues can influence our daily lives.

Earth News programs are presented at the Science in Action Stage at 12:30 on Wednesday, Friday and Sunday.



Ms. Globey, from PG & E, talks about saving energy at Earth News

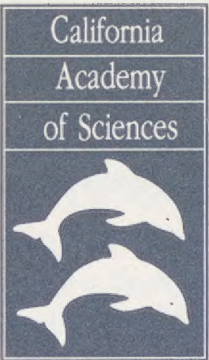
...ion, guitar and spoons, this colorful show uses storytelling and sound to recount the history of the region and is made possible through the SF Grants for the Arts and the McKesson Foundation.



# JANUARY

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p><i>Saturdays--Earth Celebrations at the Science in Action booth explore "Frozen Worlds" at 12:30 &amp; 3 pm. Discover the polar regions of our planet through stories, games, a short film clip and an exciting treasure hunt.</i></p>						
3 Last day of "The Christmas Star" in the Planetarium	4 Planetarium closed through January 8	5	6 		8 Planetarium reopens with "1993 Almanac"	9 Traditional Arts, Puerto Rican Dancing, 1 pm
10	11 Errol Morris in "Conversation at the Herbst Theatre," 8 pm at Civic Center	12 Lecture, "Headhunters of Ancient Peru," 7:30 pm	13 Members Meetings, "Birds and Mammals of the Antarctic," 2 & 7:30 pm	14	15	16 Traditional Arts, Ukranian Embroidery, 1 pm
17 Young Audiences, Goldrush Sisters, 1 pm	18	19 Exploring the Universe--"Genesis of the Solar System," 7:30 pm	20 Academy Store celebrates Inauguration Day. Special discount opportunity.	21	22	23 Traditional Arts, Buddhist <i>thanka</i> paintings, 1 pm
24	25	26	27	28	29	30 Traditional Arts, Acoma Pottery, 1 pm
31						

THE ACADEMY STORE



*The Academy is open  
every day of the year  
from 10 am to 5 pm.*

Academy Information: 750-7145  
Academy Store: 750-7330  
Admissions: 750-7159  
Aquarium: 750-7247  
Biodiversity Resource Center:  
750-7361  
Development Office: 750-7216  
Education Office: 750-7100  
Group Information: 750-7043  
Laserium: 750-7138  
Lectures: 750-7128  
Lost and Found: 750-7150  
Membership Office: 750-7111  
Planetarium: 750-7141  
Planned Giving: 750-7216  
Security: 750-7000  
Special Events: 750-7219  
Switchboard: 221-5100  
Travel: 750-7348  
Volunteer Services: 750-7154

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## COUPON FORM FOR TICKETS

To use this form, please indicate the programs you wish to attend. Include your check or charge information, and a SASE for EACH series for which you subscribe. Then clip out the form following the dotted lines (including your mailing label) and send to the Academy at the address listed below.

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LECTURES			EXPLORING THE UNIVERSE		PLANETARIUM CONCERT	
	Qty/Members	Qty/Non-members	Total		Quantity	Total
<b>HEADHUNTERS OF PERU</b> January 12	_____ x \$ 5	_____ x \$ 7 = _____		<b>GENESIS OF SOLAR SYSTEM</b> January 19	_____ x \$ 2 = _____	<b>MUSIC FROM THE GALAXIES</b>
<b>THE HEALING FOREST</b> February 11				<b>WHERE COMETS COME FROM</b> February 16	_____ x \$ 2 = _____	
Reception & Lecture	_____ x \$ 30	_____ x \$ 35 = _____		<b>RUSSIANS IN SPACE</b> March 23		February 7 _____ x \$ 10 = _____
Lecture Only	_____ x \$ 5	_____ x \$ 7 = _____		Reception & Lecture	_____ x \$ 25 = _____	February 8 _____ x \$ 10 = _____
<b>GOING FOR THE GOLD</b> February 16	_____ x \$ 6	_____ x \$ 8 = _____		Lecture Only	_____ x \$ 5 = _____	
				<b>VOYAGER EXPLORATION</b> April 13	_____ x \$ 2 = _____	<b>TOTAL \$</b> _____
		<b>TOTAL \$</b> _____		<b>QUASARS</b> May 11	_____ x \$ 2 = _____	
				<b>TOTAL \$</b> _____		

## PAYMENT METHOD

(Check one) ☐ Check ☐ VISA ☐ MasterCard ☐ American Express  
Credit card charges gladly accepted over \$10.

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Signature \_\_\_\_\_

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**California Academy of Sciences and mail with form to:  
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California Academy of Sciences  
Golden Gate Park, San Francisco, CA 94118**

Daytime Phone \_\_\_\_\_

**TOTAL PAYMENT ENCLOSED \$** **PLEASE INCLUDE A SASE FOR EACH SERIES FOR WHICH YOU SUBSCRIBE. NO REFUNDS/NO EXCHANGES.**